

CERAMICS MEET GINGIVA

WILLI GELLER
Creation



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CERAMICS MEETS GINGIVA

INTRODUCTION

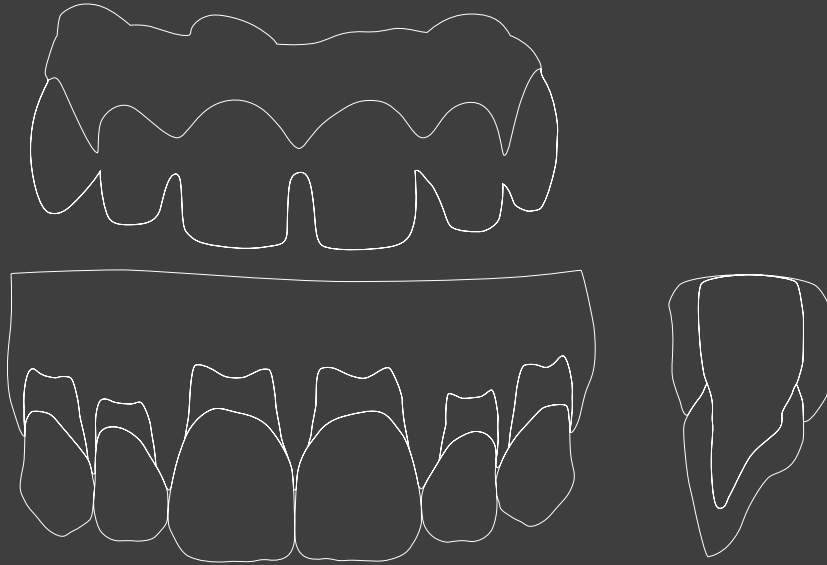
We face new challenges in dental technology almost every day. Beautiful front teeth look great as models, but appear grey and opaque when actually in the mouth. Colours lack intensity. Creation, with the assistance of master dental technician Stefan Picha, would like to be of assistance with these processing instructions to make tooth restorations appear more lifelike. When selecting colours, the correct brightness is just as important as the distribution of translucence and opacity. So that our layer is successful, it is therefore extremely important that we correctly recognise internal structures and imitate these at the same level of intensity. It should be borne in mind that translucences should always be limited. The effort in designing the gum line is just as demanding as layering the front teeth. The colour selection, analysis of internal structures, and determining different translucences are extremely important for subsequent success.



FRAMEWORK DESIGN

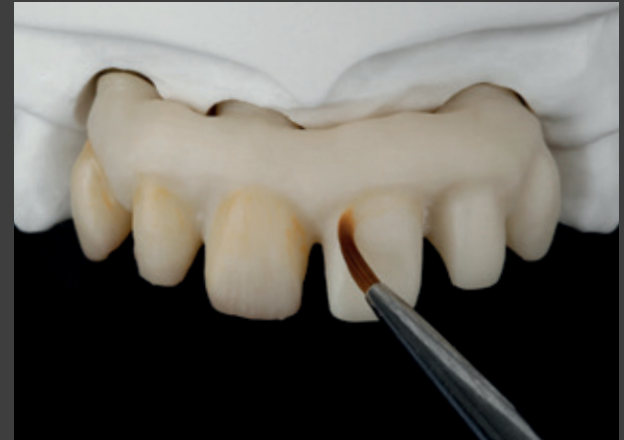
1. Framework made of zirconium
2. Colouring the framework using In Nova Neo

4



FRAMEWORK COLOURING

Buccal and palatal



5

The stated firing parameters are guide values which must always be adapted to the furnace being used and the situation of the furnace. Getting the right firing result is what matters.

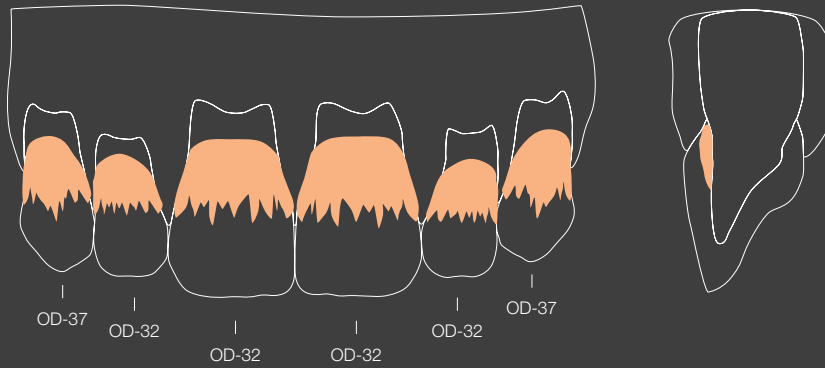
Firing	Start temperature	Drying time	Raise of temperature	V	Final temperature	Holding time	Long-term cooling up to 600 °C	Appearance
In Nova Neo as Frame Shade	500 °C	6 min.	45 °C/min.	+	900 °C	1 min.	-	Shiny

CONSTRUCTION OF OPAQUE DENTINE AND DENTINE

OD-32 attached to 1 and 2

OD-37 attached to 3

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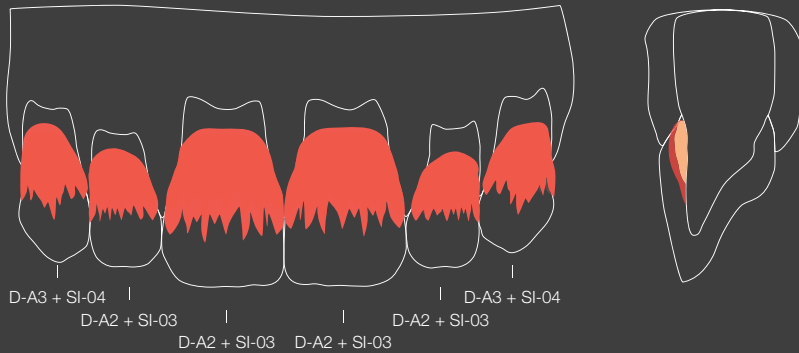
Materials used: • Opaque Dentine OD-32 havanna • Opaque Dentine OD-37 curry



CONSTRUCTION OF OPAQUE DENTINE AND DENTINE

D-A2 + SI-03 attached to 1 and 2 in a 1:1 mixing ratio

D-A3 + SI-04 attached to 3 in a 1:1 mixing ratio



• Dentine A2 • Dentine A3 • Effect Enamel SI-03 heavy yellow • Effect Enamel SI-04 light orange

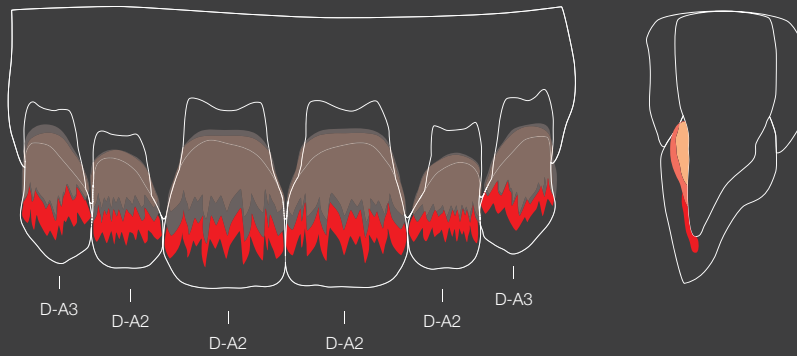


CONSTRUCTION OF OPAQUE DENTINE AND DENTINE

D-A2 attached to 1 and 2

D-A3 attached to 3

8

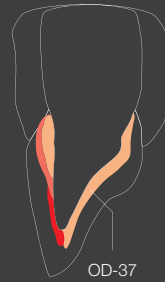
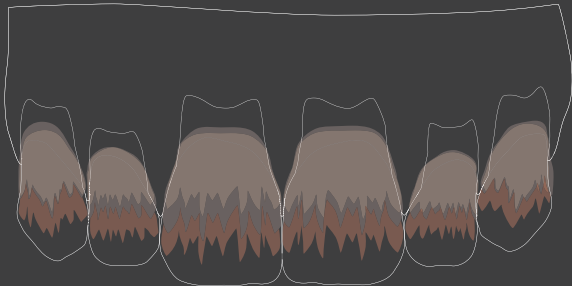


Materials used: • Dentine A2 • Dentine A3



CONSTRUCTION OF OPAQUE DENTINE AND DENTINE

OD-37 palatal



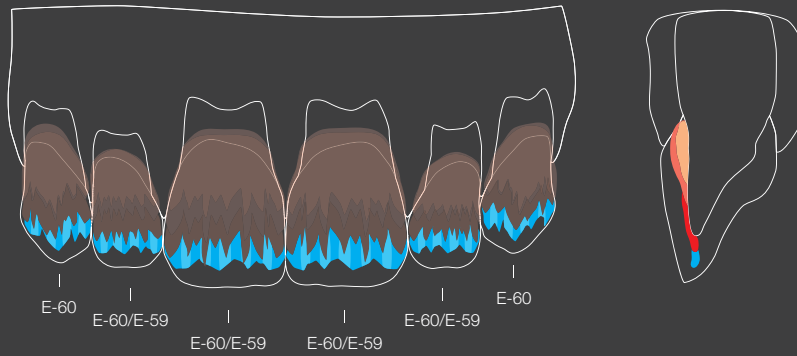
Material used: • Opaque Dentine OD-37 curry



CONSTRUCTION OF INCISAL AND TRANSPARENT MATERIALS

E-60 + E-59 are interchangeable

10

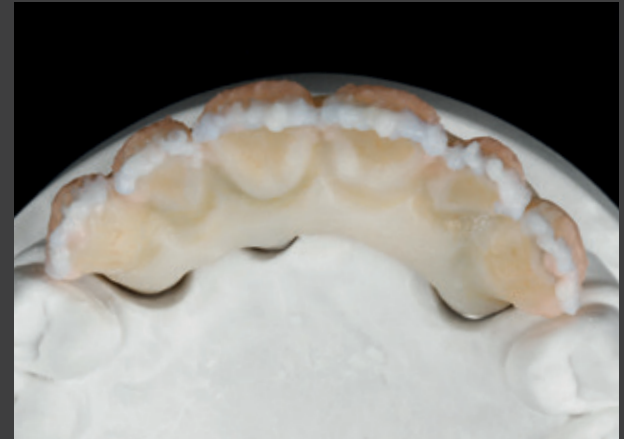
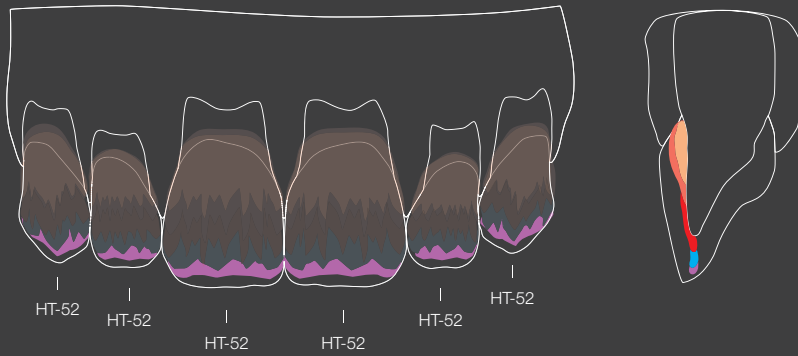


Materials used: • Enamel E-59 • Enamel E-60



CONSTRUCTION OF INCISAL AND TRANSPARENT MATERIALS

Incisal closing with HT-52



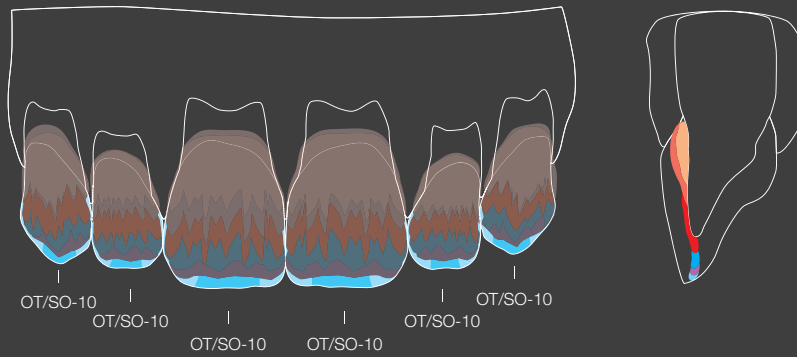
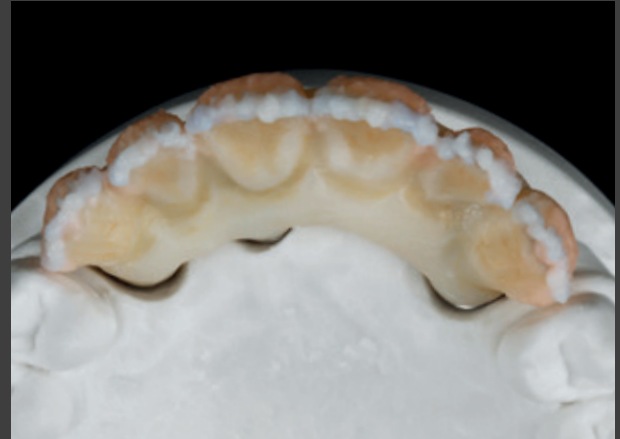
Material used: • Neck Transpa high fluorescent HT-52 khaki



CONSTRUCTION OF INCISAL AND TRANSPARENT MATERIALS

Extending the final length with OT central and SO-10 on the sides.

12



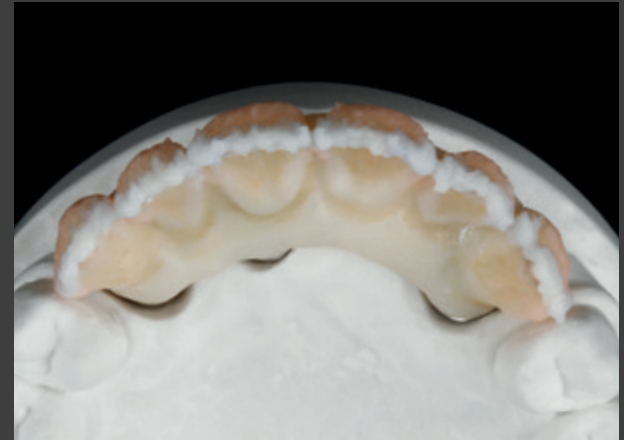
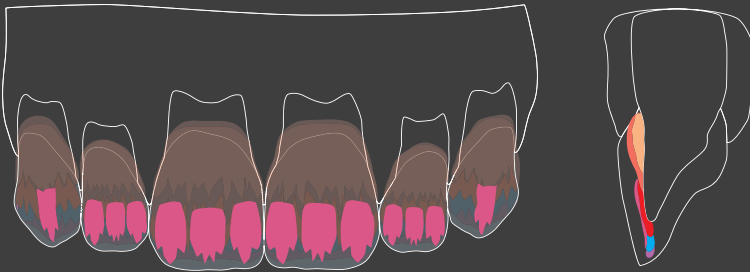
Materials used: • Transpa OT opal • Effect Enamel SO-10 blue



CONSTRUCTION OF INCISAL AND TRANSPARENT MATERIALS

Central mamelon MI-65 + HT-52 in a 1:1 mixing ratio

Lateral mamelon MI-63 + HT-52 in a 1:1 mixing ratio



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Materials used:

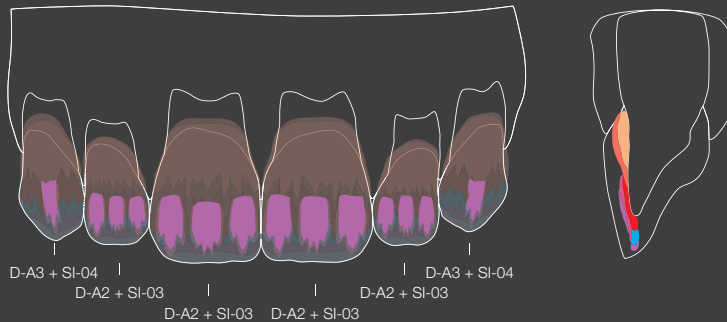
- Make In MI-63 high fluorescent internal powder
- Make In MI-65 high fluorescent internal powder
- Neck Transpa high fluorescent HT-52 khaki



CONSTRUCTION OF INTENSIVE MATERIALS

Gentle blocking of mamelons with a dentine mixture
D-A2 + SI-03 attached to 1 and 2 in a 1:1 mixing ratio
D-A3 + SI-04 attached to 3 in a 1:1 mixing ratio

14



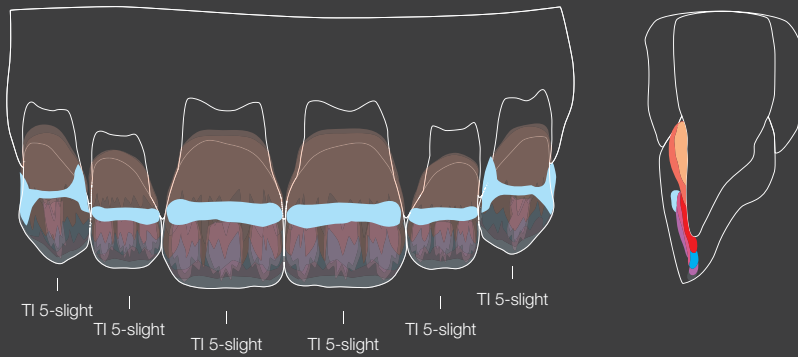
Materials used:

• Dentine D-A2 • Dentine D-A3 • Effect Enamel SI-03 heavy yellow • Effect Enamel SI-04 light orange



CONSTRUCTION OF INTENSIVE MATERIALS

Slight grey band with TI-5



15

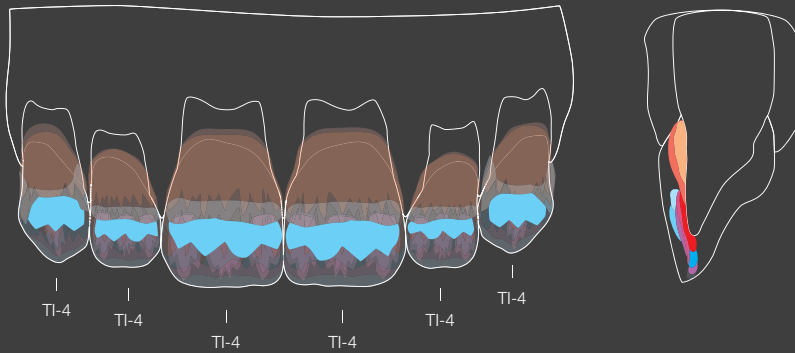
Material used: • Transpa TI-5 grey



CONSTRUCTION OF INTENSIVE MATERIALS

Filling in areas between mamelons with TI-4

16



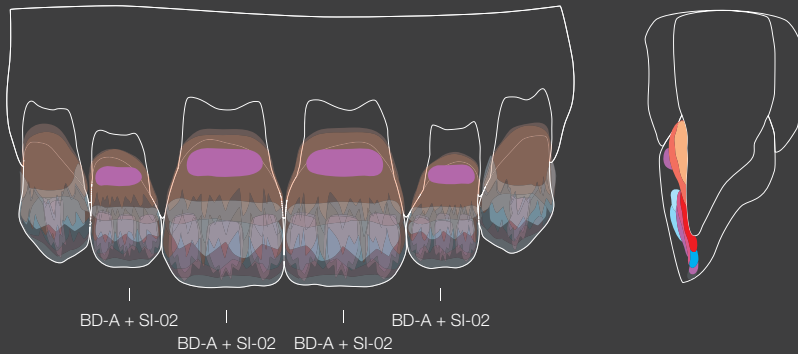
Material used: • Transpa TI-4 yellow



CONSTRUCTION OF INTENSIVE MATERIALS

Cervical brightening with BD-A + with SI-02 (gentle)

17



Materials used: • Bleach Dentine BD-A • SI-02 medium yellow

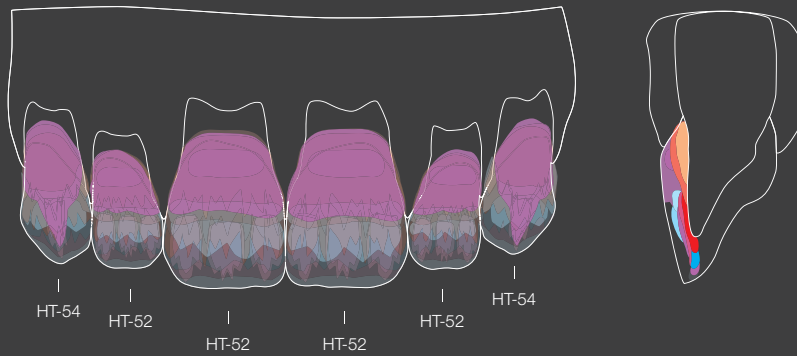


CONSTRUCTION OF INTENSIVE MATERIALS

Body HT-52 attached to 1 and 2

Body HT-54 attached to 3

18

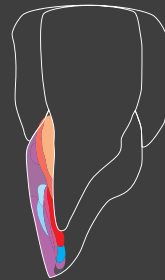
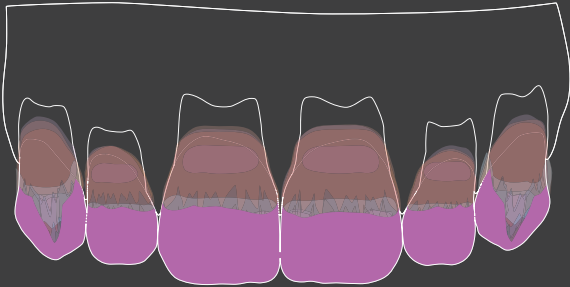
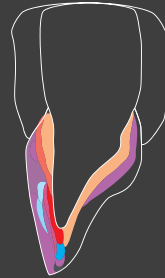
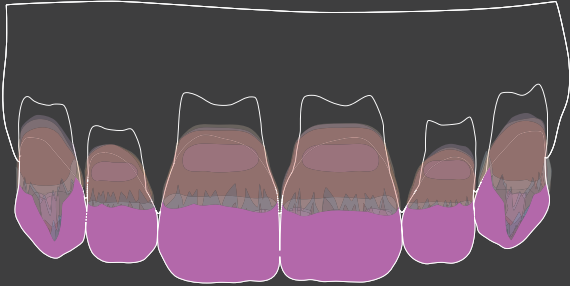


Materials used: • Neck Transpa HT-52 high fluorescent • Neck Transpa HT-54 high fluorescent



CONSTRUCTION OF INTENSIVE MATERIALS

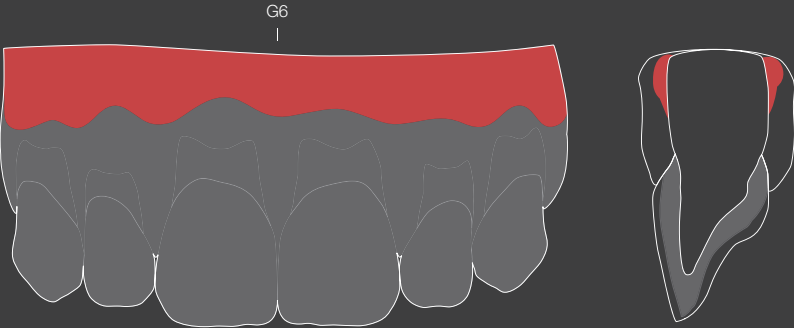
Completion of form using $\frac{1}{4}$ SO-10 + $\frac{1}{4}$ OT + $\frac{1}{2}$ CL-O



CONSTRUCTION OF GINGIVA MATERIALS

Applying gingiva material G6 (opaque)

20



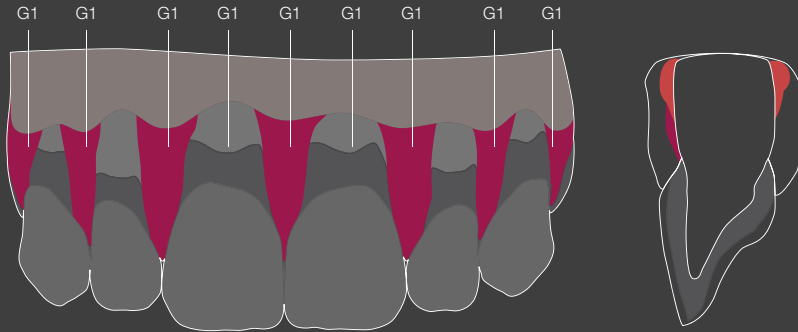
Material used: • Gingiva G6 dark pink opaque



CONSTRUCTION OF GINGIVA MATERIALS

Thin out G1 in the inter-dental space, palatally too.

The layered tooth and the zirconium framework now appear like a natural tooth complete with root.



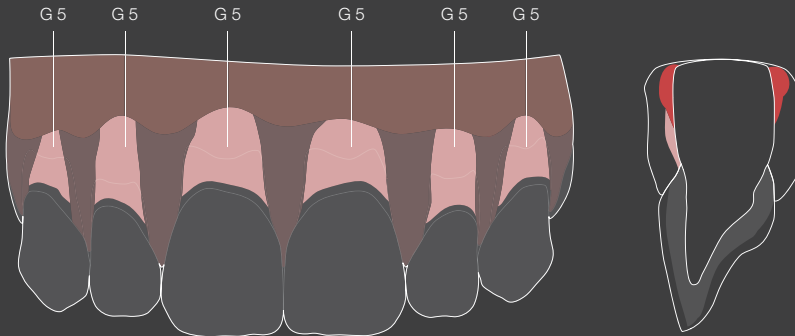
Material used: • Gingiva G1 purple



CONSTRUCTION OF GINGIVA MATERIALS

Covering the tooth root with G5 (gently!)
Gently cover the area between G1 and G6 palatally!

22



Material used: • Gingiva G5 rose



1ST DENTINE FIRING

Important when firing large constructions:

Long closure time of approx. 6 min.

Slowly heat up 30°C/min. up to 40°C/min.

Cooling phase 50°C/min. up to 600°C

23



The stated firing parameters are guide values which must always be adapted to the furnace being used and the situation of the furnace. Getting the right firing result is what matters.

Firing	Start temperature	Drying time	Raise of temperature	V	Final temperature	Holding time	Long-term cooling up to 600°C	Appearance
Dentine firing for more than four units	500°C	8-10 min.	40°C/min.	+	910°C	1 min.	6 min. or 50°C/min	Shiny

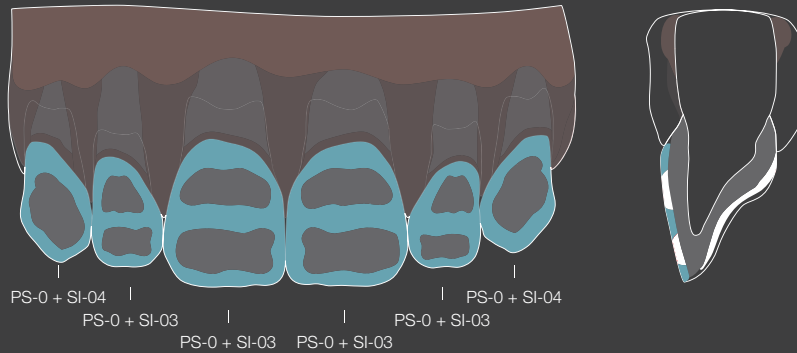
CONSTRUCTION OF 2ND LAYER WITH INCISAL AND TRANSPARENT MATERIALS

PS-0 + SI-03 attached to 1 and 2 in a 1:1 mixing ratio

PS-0 + SI-04 attached to 3 in a 1:1 mixing ratio

Lateral and incisal border with a mixture

- 24 Important: The gap between the centrals are filled interdentally with SI-03 after firing.

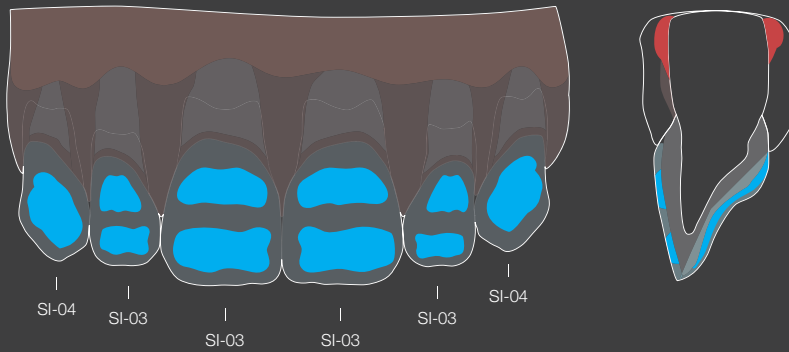


Materials used: • Pearl Enamel PS-0 white • Effect Enamel SI-03 heavy yellow • SI-04 light orange



CONSTRUCTION OF 2ND LAYER WITH INCISAL AND TRANSPARENT MATERIALS

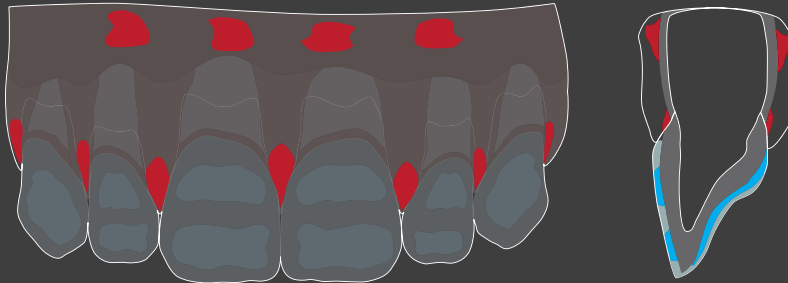
Supplementing the shape with
SI-03 attached to 1 and 2
SI-04 attached to 3



CONSTRUCTION OF 2ND LAYER WITH GINGIVA MATERIALS

G1 used interdentally and cervically to supplement shrinkage

26

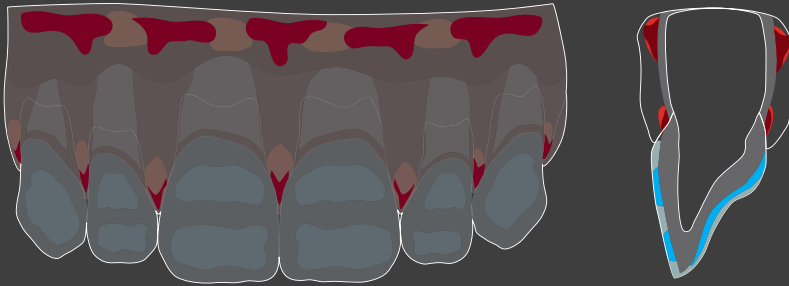


Material used: • Gingiva G1 purple



CONSTRUCTION OF 2ND LAYER WITH GINGIVA MATERIALS

G7 and G6 in the mucosal area, and gently on the interdental palatal tips G3 in the cervical area.



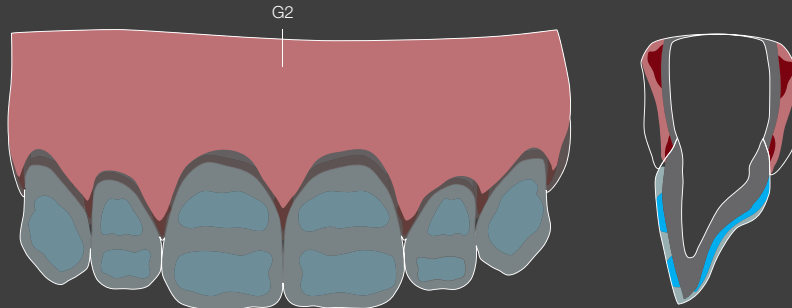
27

Materials used: • Gingiva G7 violet • Gingiva G6 dark pink opaque • Gingiva G3 light pink

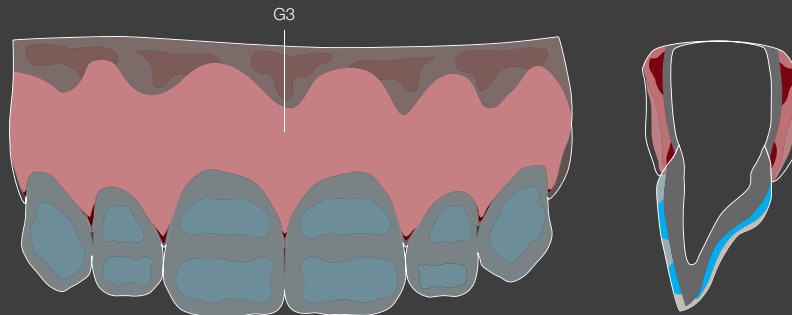


CONSTRUCTION OF 2ND LAYER WITH GINGIVA MATERIALS

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Gently overlay with G2 + GN with a 1:1 mixing ratio



Gently overlay with G3



Important: G3 will be drawn over G2 + GN

Materials used: • Gingiva G2 dark pink • Gingiva G3 light pink • Gingiva GN neutral



SUPPLEMENTING THE TOOTH SHAPE AND THE GINGIVAL EDGE

Palatal contouring of the palate with TI-2



29

Material used: • Transpa TI-2 white



2ND DENTINE FIRING

30



Stated firing parameters are guide values which must always be adapted to the furnace being used and the situation of the furnace. Getting the right firing result is what matters.

Firing	Start temperature	Drying time	Raise of temperature	V	Final temperature	Holding time	Long-term cooling up to 600 °C	Appearance
Dentine firing for more than four units	500 °C	8-10 min.	40 °C/min.	+	910 °C	1 min.	6 min. or 50 °C/min	Shiny

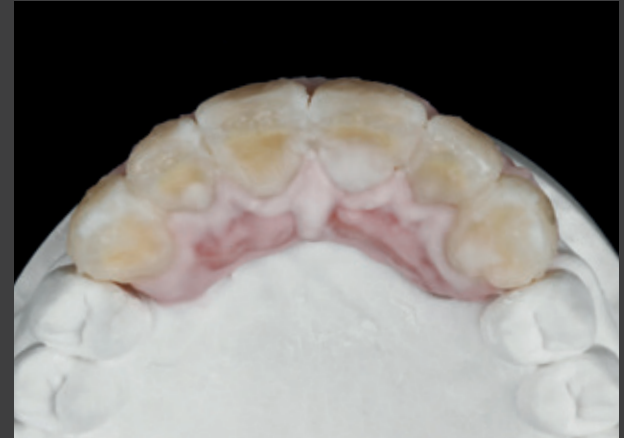
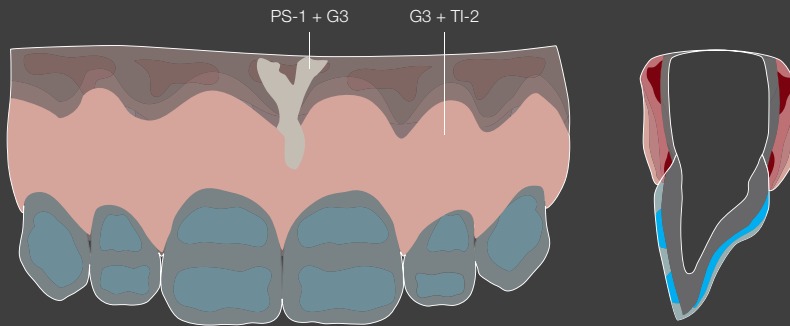
CORRECTIONS AND FINAL FINISH

Supplementing the tooth shape with SI-03

Supplementing the gingival edge with G3 + TI-2 in a 1:1 mixing ratio – tapering towards the root

Labial frenulum PS-1 + G3 in a 1:1 mixing ratio

Incisal papilla PS-1 + G3 in a 1:1 mixing ratio



31



Materials used:

- Effect Enamel SI-03 heavy yellow
- Gingiva G3 light pink
- Transpa TI-2 white
- Pearl Transpa PS-1 blue/white

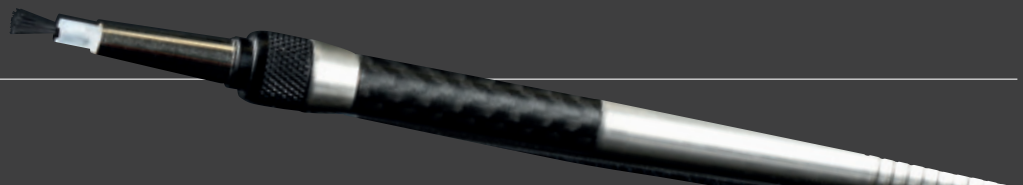
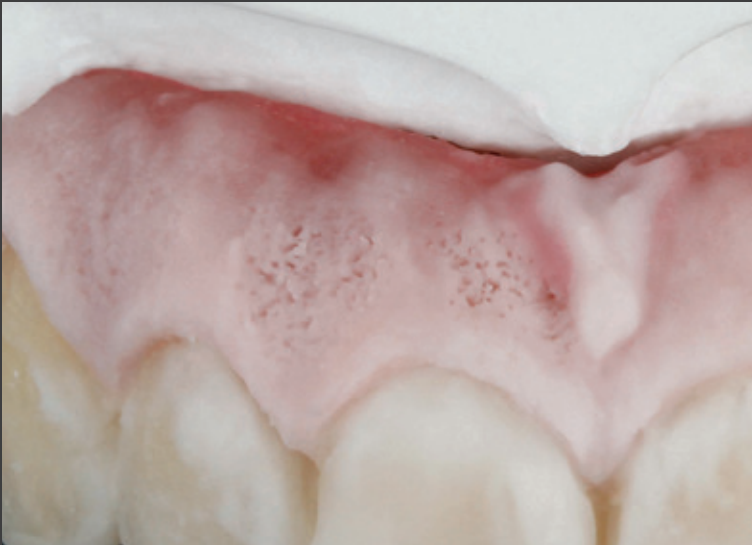


CORRECTIONS AND FINAL FINISH

Stippling the gingiva surface

Important: The last layer must not be too thick, otherwise stippling will take place too deeply within the material.

32



CORRECTIONS AND FINAL FINISH

Before and after: As more layering can be carried out, then less polishing is required! Solely polishing the texture of the gingiva is practically impossible!

33



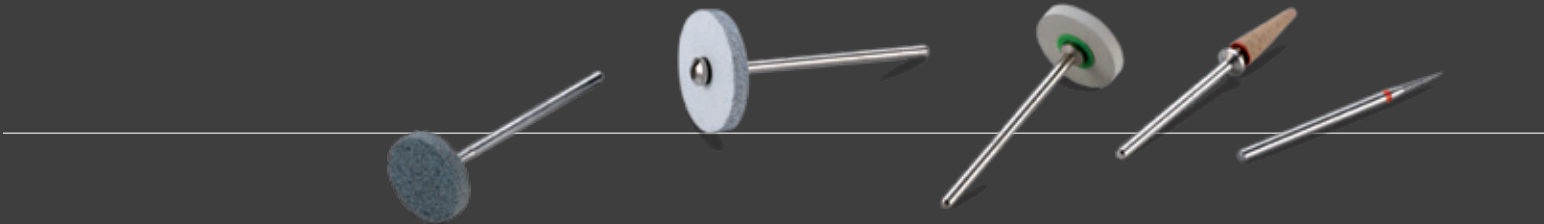
Stated firing parameters are guide values which must always be adapted to the furnace being used and the situation of the furnace. Getting the right firing result is what matters.

Firing	Start temperature	Drying time	Raise of temperature	V	Final temperature	Holding time	Long-term cooling up to 600 °C	Appearance
Correction firing for more than four units	500 °C	8-10 min.	40 °C/min.	+	900 °C	1 min.	6 min. or 50 °C/min	Shiny

PREPARATION FOR GLAZE AND COLOUR FIRING (MAKE UP NEO)

Completed, polished and gummy surface

Texture check with gold powder



GLAZE AND COLOUR FIRING (MAKE UP NEO)

After mild characterisation with Make up Neo-stains and glaze firing

35



The stated firing parameters are guide values which must always be adapted to the furnace being used and the situation of the furnace. Getting the right firing result is what matters.

Firing	Start temperature	Drying time	Raise of temperature	V	Final temperature	Holding time	Long-term cooling up to 600 °C	Appearance
Glaze and colour firing (Make up Neo)	500 °C	6 min.	40 °C/min.	-	850 °C	1 min.	6 min. or 50 °C/min	Shiny

CREATION ZI-CT COLOR CHART

Vita® Shade		A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
Dentine	16	A1	A2	A3	A3,5	A4	B1	B2	B3	B4	C1	C2	C3	C4	D2	D3	D4
Enamel	4	E58	E58	E59	E59	E60	E57	E59	E59	E59	E60	E59	E59	E60	E60	E59	E59
Clear	2	Clear CL-0 / Window UC															

Materials which are not related to the Vita®shade guide:

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Opaque Dentine Modifier	5	OD-32 havanna			OD-37 curry			OD-41 orange			OD-43 ivory			OD-44 cuba					
Transpa	7	NT neutral		OT opal		TI-1 blue		TI-2 white		TI-3 pink		TI-4 yellow		TI-5 grey					
Effect Enamel	8	SI-01 light yellow		SI-02 medium yellow		SI-03 heavy yellow		SI-04 light orange		SI-05 medium orange		SI-06 heavy orange		SO-10 blue		SO-11 orange			
Pearl Enamel	4	PS-0 white				PS-1 blue/white				PS-2 flamingo				PS-3 orange					
Neck Transpa	6	HT-51 iridescent		HT-52 khaki		HT-53 sand		HT-54 honey		HT-55 bordeaux		HT-56 ocker							
Shoulder Powders	9	SP-21 neutral		SP-22 flamingo		SP-23 sand		SP-24 gold		SP-25 red brown		SP-26 yellow gold		SP-27 ivory		SP-28 opaque yellow		SP-29 honey	
Make In	6	MI-61 ivory			MI-62 lemon			MI-63 honey yellow			MI-64 flamingo			MI-65 gold			MI-66 olive		
Approximal Dentine	2	AD-1 light yellow									AD-2 orange								
Gingival	8	G1 purple		G2 dark pink		G3 light pink		G4 flamingo		G5 rose		G6 dark pink opaque		G7 violet		GN neutral			
Glaze	1	Glaze-GL																	
Correction Powder	1	Correction Powder-KM																	
Bleach Dentine	3	BD-A						BD-B						BD-B0					
Bleach Enamel	1	S-AB																	
Bleach Shoulder	1	SP-AB																	

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CREATION ZI-CT FIRING CHART

Recommended guidelines of Creation Willi Geller for this patient case

Firing	Preheating temperature	Drying time	Raise of temperature	V	Final temperature	Holding time	Long-term cooling up to 600°C	Appearance
In Nova Neo as Frame Shade	500 °C	6 min.	45 °C/min.	+	900 °C	1 min.	-	Shiny
Dentine firing for more than four units	500 °C	8-10 min.	40 °C/min.	+	910 °C	1 min.	6 min. or 50 °C/min.	Shiny
Correction firing for more than four units	500 °C	8-10 min.	40 °C/min.	+	900 °C	1 min.	6 min. or 50 °C/min.	Shiny
Glaze and colour firing (Make up Neo) for more than four units	500 °C	6 min.	40 °C/min.	-	850 °C	1 min.	6 min. or 50 °C/min.	Shiny
Firing correction material for more than four units	450 °C	6 min.	40 °C/min.	+	820 °C	1 min.	6 min. or 50 °C/min.	Shiny

The above firing parameters are guide values which must always be adapted to the furnace being used and the situation of the furnace. Getting the right firing result is what matters.

Individual guidelines according to Stefan Picha

Firing	Preheating temperature	Drying time	Closure time	Raise of temperature	V	Final temperature	Holding time	Cooling phase
Picha basic brand	500 °C	2 min.	5 min.	45 °C/min.	+	930 °C	1 min.	55 °C/min. - 600 °C
Shoulder firing	500 °C	2 min.	5 min.	45 °C/min.	+	930 °C	1 min.	55 °C/min. - 600 °C
1 st Dentine firing	500 °C	4 min.	5 min.	45 °C/min.	+	890 °C	1 min.	55 °C/min. - 600 °C
2 nd Dentine firing	500 °C	4 min.	5 min.	45 °C/min.	+	885 °C	1 min.	55 °C/min. - 600 °C
3 rd Dentine firing	500 °C	4 min.	5 min.	45 °C/min.	+	880 °C	1 min.	55 °C/min. - 600 °C
Glaze firing	550 °C	2 min.	5 min.	45 °C/min.	-	875 °C	45 sec.	55 °C/min. - 600 °C
Correction firing	450 °C	2 min.	5 min.	45 °C/min.	+	795 °C	1 min.	55 °C/min. - 600 °C

The above firing parameters are guide values which must always be adapted to the furnace being used and the situation of the furnace. Getting the right firing result is what matters. The specifications are based on Mr Picha's personal experiences and are tailored to the situation within his laboratory. The manufacturer does not accept any liability for damages and for issues which could arise with these processing instructions that are not agreed upon with the manufacturer.



CERAMIC MEETS GINGIVA



MDT STEFAN PICHA

After training in Labor Snay I set out on my own path in dental technology in 1992. I then started training with Michael Polz and Stefan Schunke in 1996. After several years of further training in aesthetics, function, and milling technology I completed my Master certification as a day pupil at the Meisterschule in Nuremberg. Since 2009 I have been a member in the commission for Master certification - Nuremberg committee.

I have independently managed my own dental laboratory in Fürth since 2010, since September 2015, I am a member of the renowned Oral Design Group.

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Subject to changes at any time.

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